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## Exam Review: Unit 5

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### Section 1: Shapes

- Vocabulary

Congruent

Polygon

Scalene

Isosceles

Equilateral

Acute

Right

Obtuse

Reflex

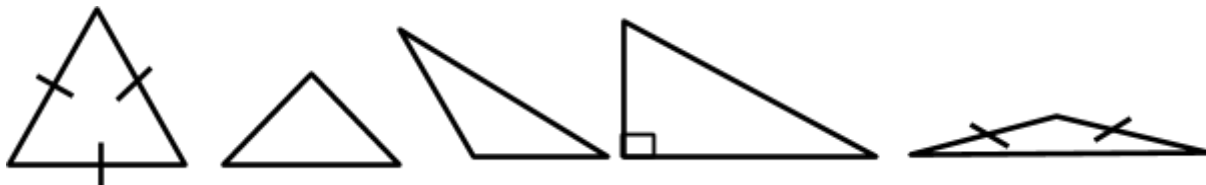
Symmetry

Regular Polygons

1. Which of the following shapes are polygons?



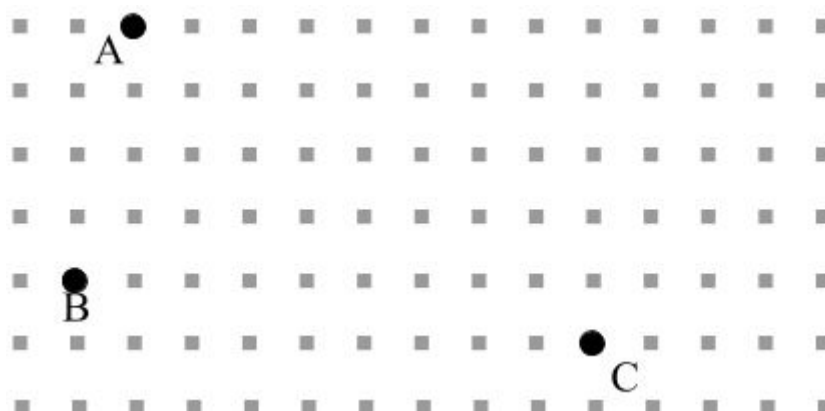
2. Classify the triangles as scalene (S), isosceles (C), equilateral (E), right (R), obtuse (O) and acute (A). [Note: only lengths marked by a tick are equal]



3. Which of the following pictures have line symmetry? Which of them have rotational symmetry?



4. Draw a trapezoid with line symmetry using the points below as vertices.

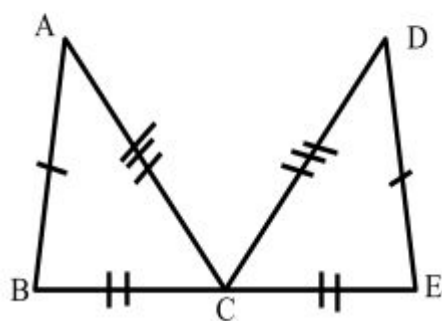


Section 2: Congruent Figures

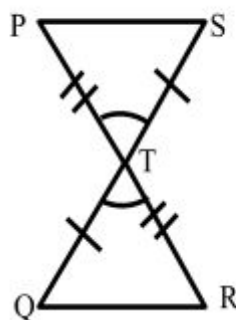
1. When are two squares congruent?
2. When are two rectangles congruent?
3. When are two parallelograms congruent?
4. What are the three methods discussed in class for proving that two triangles are congruent?  
Illustrate by drawing pictures.

5. Write down the names (in proper order) of congruent triangles.

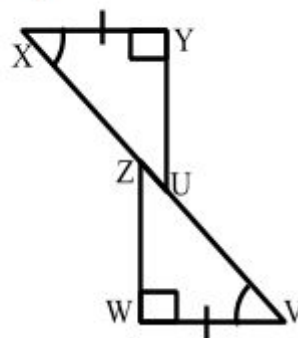
a)



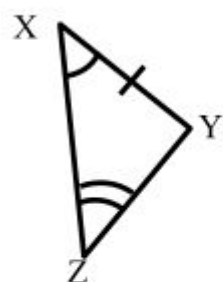
b)



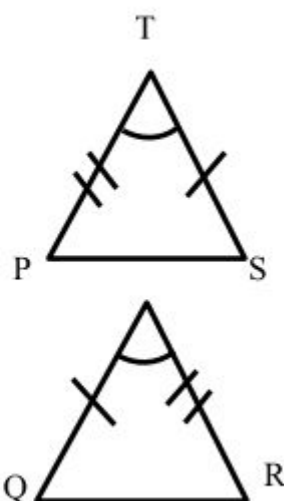
c)



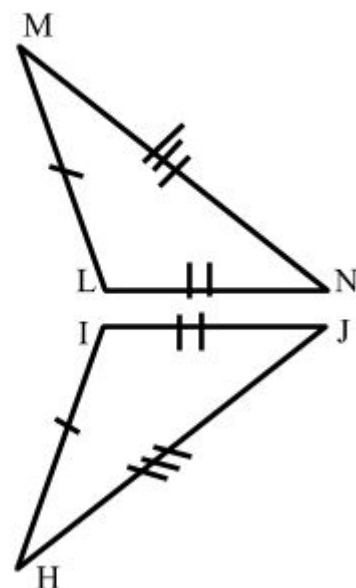
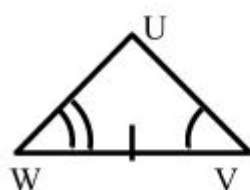
d)



e)



f)



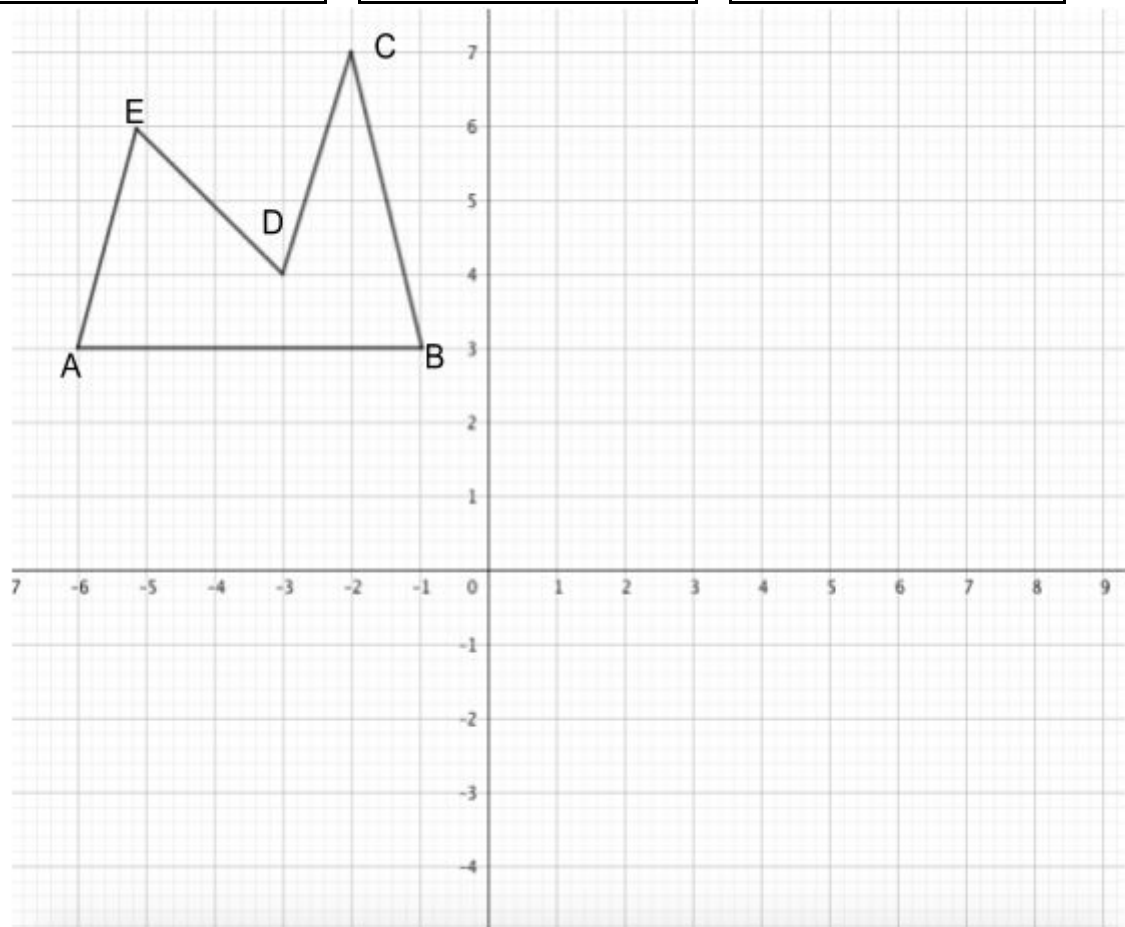
Section 3: Transformation

## • Vocabulary

Translation

Rotation

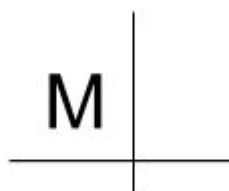
Reflection



1. Transform the shape above.
  - a. Translation to the right by 8 units.
  - b. Translation down by 5 units.
  - c. Rotation  $90^\circ$  ( $\frac{1}{4}$  rotation) about point B.
  - d. Reflection about the vertical line through (1,0).
  - e. Translation by 10 units right and 1 unit up.
2. Explain how would you obtain Figure B by transforming Figure A.

Figure A

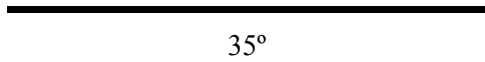
Figure B



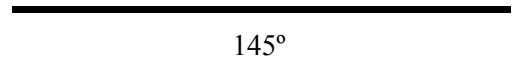
Section 3: Geometric Constructions

1. Draw an angle using the line segment as base.

a)

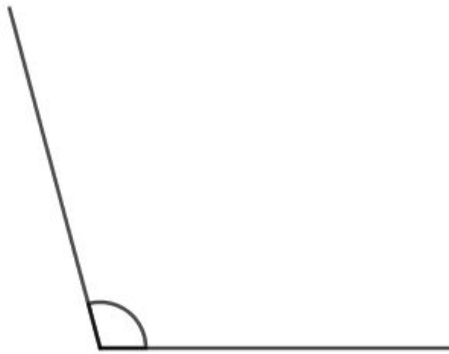


b)



2. Use a protractor and measure the angle below.

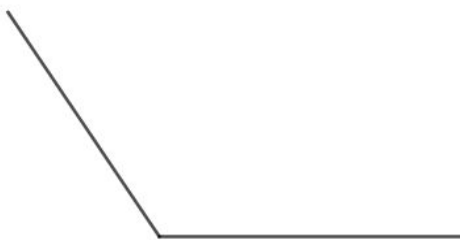
a)



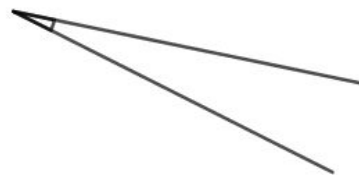
b)



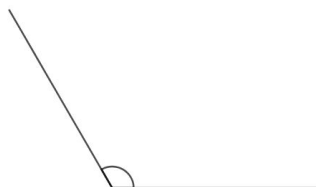
c)



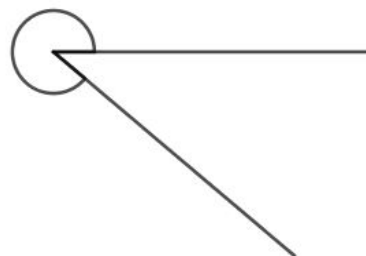
d)



e)



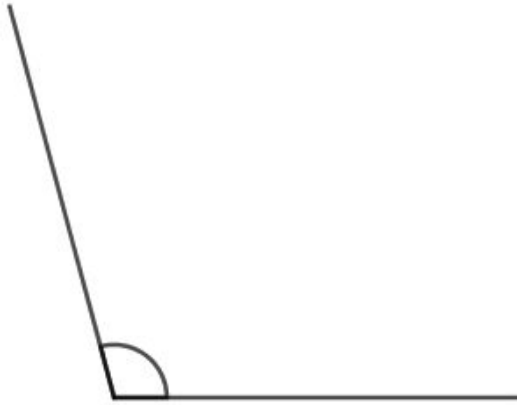
f)



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3. Draw angle bisectors of the following angles.

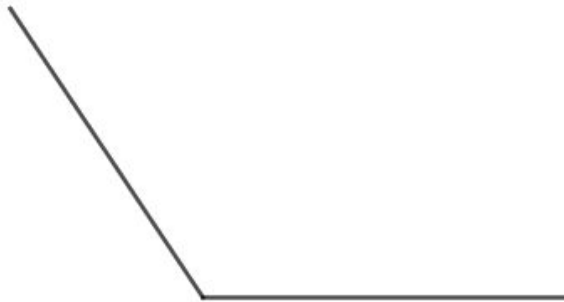
a)



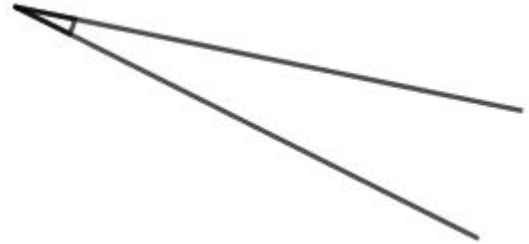
b)



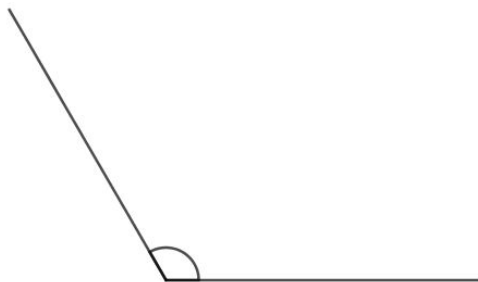
c)



d)



e)

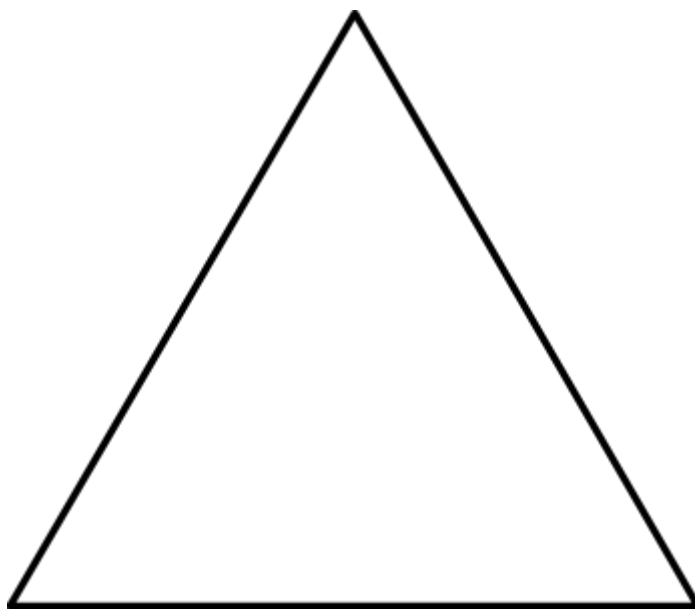


4. Construct the following triangles.

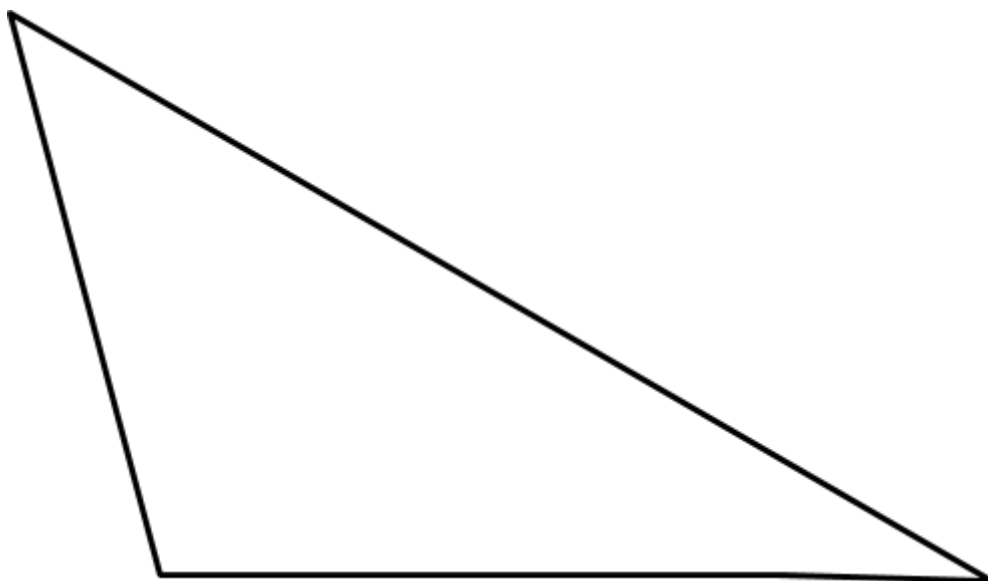
- $\triangle ABC$ :  $AB = 8\text{cm}$ ,  $BC = 8\text{cm}$ ,  $AC = 10\text{cm}$ .
- $\triangle DEF$ :  $DE = 6\text{cm}$ ,  $\angle FDE = 40^\circ$ ,  $DF = 14\text{cm}$ .
- $\triangle XYZ$ :  $XY = 4.5\text{cm}$ ,  $YZ = 5.5\text{cm}$ ,  $ZX = 7.5\text{cm}$ .
- $\triangle PQR$ :  $PQ = 16\text{cm}$ ,  $\angle RQP = 80^\circ$ ,  $\angle RPQ = 50^\circ$ .
- $\triangle LMN$ :  $LM = 13\text{cm}$ ,  $MN = 12\text{cm}$ ,  $LN = 5\text{cm}$ .
- $\triangle JKL$ :  $JK = 12\text{cm}$ ,  $\angle LKJ = 150^\circ$ ,  $KJ = 14\text{cm}$ .

NAME: \_\_\_\_\_

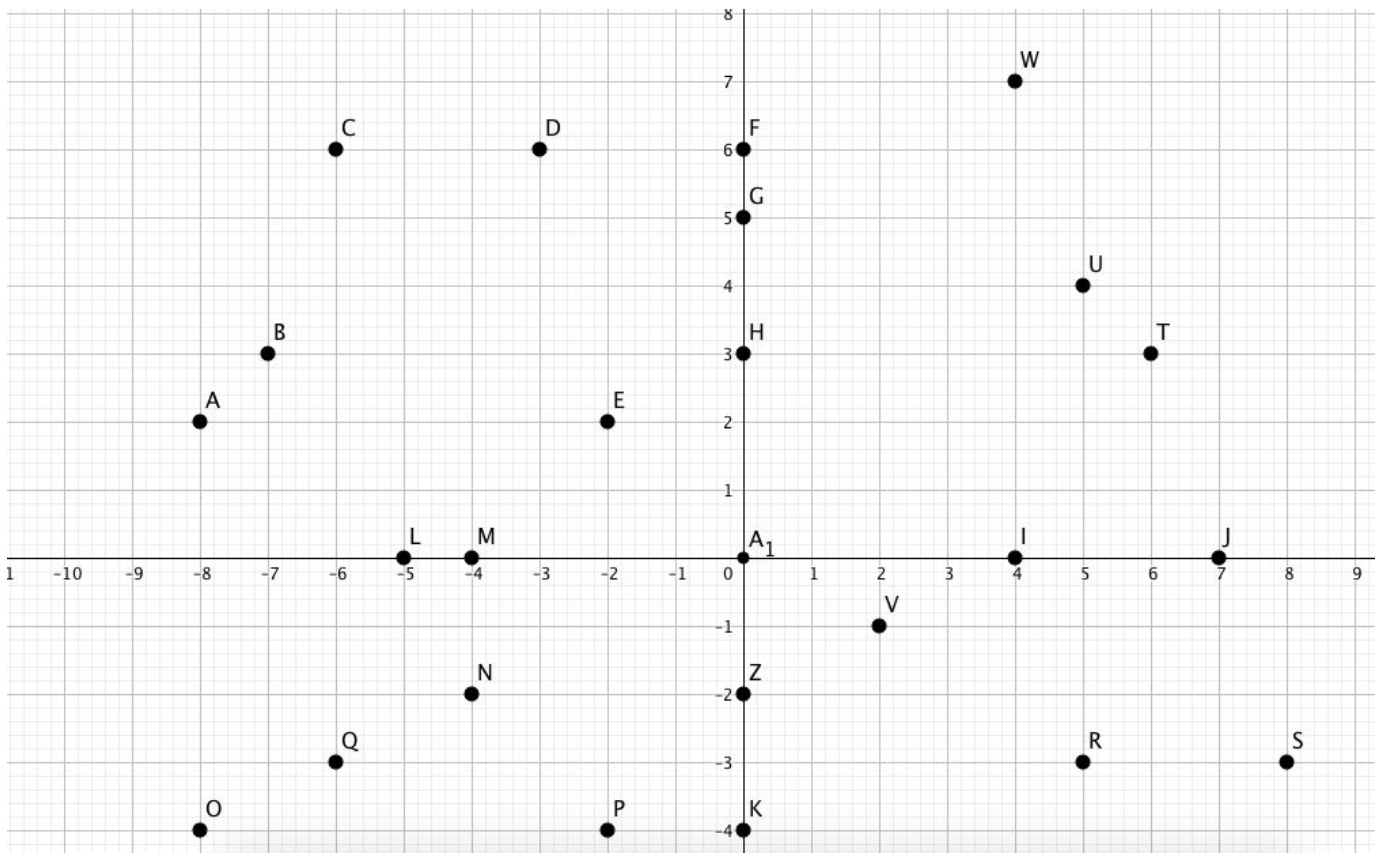
5. Draw the angle bisectors of all angles of the triangle below.



6. Draw the perpendicular bisectors of all sides of the triangle below.



7. Draw an angle of  $275^\circ$

Section 5: Coordinate Geometry

1. Write down the coordinates of the points:  
**C, A, P, R, L, Q, U, H, K**
2. Write down the points with the coordinates:  
 $(-4, -2)$ ,  $(-4, 0)$ ,  $(4, 0)$ ,  $(-8, -4)$ ,  $(4, 7)$
3. Write down all points that lie in the I Quadrant:
4. Write down all points that lie in the II Quadrant:
5. Write down all points that lie in the III Quadrant:
6. Write down all points that lie in the IV Quadrant:
7. Write down all points that lie on the  $x$  - axis.
8. Write down all points that lie on the  $y$  - axis.